USE OF SOCIAL-SKILLS TRAINING IN THE
TREATMENT OF EXTREME ANXIETY AND DEFICIENT
VERBAL SKILLS IN THE JOB-INTERVIEW SETTING

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A 30-year-old recent college graduate, exhibiting extreme anxiety and deficient verbal skills in job interviews, was treated with a social-skills training procedure that included instructions, modelling, behavior rehearsal, and videotape feedback. Three target behaviors—focused responses, overt coping statements, and subject-generated questions—were presented using a multiple-baseline design. Galvanic skin-response activity was monitored during pre- and posttraining *in vivo* job interviews. In addition, independent judges unobtrusively rated the subject's social-communicative behaviors in his temporary work-setting before and after training. Training resulted in expected changes for all three target behaviors and a decrease in the rate of speech disturbances. Physiological data supported the subject's report that training enabled him to deal with his anxiety more effectively during job interviews. Training was found to generalize to novel interview questions and different interviewers. Furthermore, unobtrusive measures of eye contact, fluency of speech, appropriateness of verbal content, and composure supported the subject's report that training generalized to his daily social interactions on the job.

DESCRIPTORS: job-interview skills, verbal behavior, social-skills training, role playing, anxiety, modelling, generalization, unobtrusive measures, physiological measures, humans

The job interview is probably the single most important selection device used in making employment decisions (Cohen and Etheredge, 1975; Drake, Kaplan, and Stone, 1972). Consequently, a candidate's behavior during the interview may assume an important role in obtaining a desired position. Tschirgi (1973) found that hiring officers from 70 business firms ranked communication skills observed during the interview as the most important factor in evaluating a candidate for employment. This skill was ranked well above the second factor, academic performance, and received more than twice as many points as the third factor, work experience. Other sources have indicated that socially unresponsive behavior and an inability to communicate are the most detrimental behaviors observed during job interviews (Drake *et al.*, 1972; Lumsden and Sharf, 1974).

For some candidates, appropriate and effective behavior during the job interview poses a major problem. These individuals may exhibit deficient verbal and nonverbal communication

skills. This deficiency is often accompanied by a high level of anxiety, which interferes with the performance of those skills they do possess. Social-skills training tailored for the job interview setting would appear to be an appropriate intervention for these individuals.

Job-interview training, which systematically uses established behavioral procedures such as modelling, behavior rehearsal, and feedback, has been advocated (Forrest and Baumgarten, 1975; McGovern, 1976; McGovern, Tinsley, Liss-Levinson, Laventure, and Britton, 1975; Prazak,

¹This research was supported by funds granted by the Office of the Vice-President of Academic Affairs, University of Southern Mississippi. The authors would like to thank Bob Agnew, Ken Counts, Doug McFalls, Dan Sturgis, and Richard Weaver for their help at various stages of the study. The authors are particularly grateful to Cliff Kinsey for his help with the videotaping and to Gary Jones for his help with the physiological measure. Reprints may be obtained from J. G. Hollandsworth, Jr., Department of Counseling Psychology, University of Southern Mississippi, Box 272 Southern Station, Hattiesburg, Mississippi 39401.

1969; Raanan and Lynch, 1974). In addition, several controlled investigations have supported the effectiveness of this approach (Barbee and Keil, 1973; Hollandsworth, Dressel, and Stevens, 1977; Keil and Barbee, 1973). Other studies in the area of social-skills training also appear to be directly applicable to the job-interview setting. For example, Frederiksen, Jenkins, Foy, and Eisler (1976) presented a social-skills training procedure that was used successfully to modify abusive verbal outbursts in two adults. The training consisted of modelling, instructions, response rehearsal in role-playing situations, and feedback on specific target behaviors. Videotape equipment was used to present the models and to record the role-playing situations. Feedback on the target behaviors was provided during the videotape playback of each role-play situation.

In spite of the availability of effective training procedures, there are two major problems with research in the area. First, as noted by Barbee and Keil, data are not available "to evaluate the amount of transfer from the interview training to actual job-seeking behavior" (p. 213, 1973). Second, a fine-grain analysis of job-interview behaviors coupled with the identification of specific variables that exert control over these behaviors has not been attempted. This study was designed as a first step toward meeting these objections.

METHOD

Subject

A 30-yr-old male, who had recently graduated from college with a degree in General Business, had approximately 3 yr work experience as a personnel administrator in the Army and as an accountant with an oil company. There was a history of anxiety-related problem behaviors resulting in a brief (10-day) psychiatric hospitalization 2 yr before social-skills training. At the time of this training, the only psychiatric or psychological service being rendered was a prescription for Stelazine, 1 mg PRN.

During the five months following graduation, the subject had participated in over 60 job interviews, none of which yielded a single job offer. The subject reported experiencing extreme anxiety during each interview and an inability to communicate adequate responses to the interviewer's questions. These reported failures were extremely demoralizing to the subject who eventually obtained a temporary, parttime sales job in the men's clothing department of a local retail store at a wage of \$1.50 per hour. Social-skills training was initiated shortly thereafter.

Role-played job interviews during six baseline sessions revealed that often the subject's answers to an interviewer's questions were rambling, disjointed, and difficult to follow. At times, he lost his train of thought and lapsed into periods of silence accompanied by blank stares and a rigid, emotionless facial expression. The subject reported extreme anxiety during these interviews. Also, it was noted that the subject reacted to his own verbal mistakes with more speech disturbances, further mistakes, and additional periods of silence.

Facilities and Apparatus

Training, generalization, and probe sessions were videotaped using a camera located approximately 6 m behind and to the right of the trainer. The equipment operator and the videotape equipment were in full view. Playback of models and role-play interactions was accomplished using a monitor located directly to the trainer's left.

Pre-post *in vivo* interviews were conducted in a sound-attenuated cubicle with the subject seated in a comfortable chair. The physiological recordings were made on a Narco Bio-Systems Physiograph Six with amplifier Model 7070 and GSR Coupler Type 7175. Two Cyborg silver-silver chloride electrodes with a surface area of 1.54 cm² each were used. Both electrodes were attached to the palmar surface of the left hand, on the thenar and hypothenar surfaces. The palmar site was prepared by cleaning with

alcohol. Sandborn-Redux electrode paste was used as a contact medium.

Behavioral Assessments

Training and generalization sessions. Eight questions frequently asked by recruiters in job interviews were selected for training (five questions) and generalization (three questions) sessions. Subject responses to these questions were videotaped. The initiation and termination of training for specific target behaviors were based, in part, on investigator ratings of these tapes. On completion of training, two judges, unaware of the nature or purpose of the study, independently rated the subject's responses in terms of the dependent measures described below.

Pre- and posttraining job interviews. During the first week of training and three days after termination of training, the subject participated in an unstructured *in vivo* job interview. The interviewers were two male faculty members (one at pre and one at post) with extensive experience in conducting employment interviews. Both interviewers were unaware of the procedures, target behaviors, and objectives of the study. During each interview, the subject's galvanic skin response (GSR) activity was recorded on equipment in an adjacent room. The subject was led to believe that the interviewers were actual on-campus recruiters who had agreed to conduct their interviews under these rather unusual circumstances. The debriefing, which followed the posttraining interview, indicated that this deception met with moderate success. Although the subject became suspicious about the identity of the interviewers, he did believe that he was engaged in an actual employment interview.

The interviews were unstructured and resulted in spontaneous interactions between the subject and the interviewer. This approach was used in an effort to approximate a more realistic job-interview situation, as compared with the systemic presentation of interview questions that the subject encountered during training and generalization sessions. Although this posed

problems in terms of the standardization of the pre- and posttraining interview, this assessment procedure did allow for a precise evaluation of the subject's physiological responding to more naturalistic stimuli.

Unobtrusive assessment. The subject's social-communicative skills were rated by two judges in his natural work setting. The judges, who were unknown to the subject, assumed the role of shoppers and observed the subject interacting with customers at work before and after training. Both judges made their ratings independently, although observations were conducted at the same time. Also, both judges were unaware of the procedures, target behaviors, and objectives of the study. Ratings of two verbal and three nonverbal behaviors were obtained, using a rating sheet described in more detail below. Although the subject had signed a statement consenting to this assessment procedure, debriefing following the posttraining observation indicated that, without question, the unobtrusiveness of this measure had been maintained.

Target Behaviors

Focused responses. The first target behavior—focused responses—was defined as concise, unambiguous verbal statements that directly answered the interviewer's questions. Subject responses were rated on a scale from 1 to 3. Answers that either rambled, seemed disjointed or disorganized, did not directly answer the interviewer's question, or were difficult to understand received a rating of 1. Answers that generally were direct, unambiguous, and easy to understand, but which included minor slips of the tongue or which could have included a more complete answer to the question, were rated as a 2 response. Answers that flowed smoothly and clearly met the criteria for a focused response received the rating of 3. Ratings were averaged across questions to provide a single measure of this target behavior for each training and generalization session.

Overt coping statements were defined as any verbal response that the subject emitted in

order to correct a verbal mistake or to re-establish his composure. Coping statements, such as "excuse me" and "let me start over" were used to interrupt the chain of ineffective responding, reduce anxiety, and allow the subject to answer the question again in a more composed, effective manner. The total number of coping statements during training and generalization sessions was used in the multiple-baseline design.

Subject-generated questions. The third target behavior was defined as any response or portion of a response that requested additional information, feedback, or clarification of the interviewer's questions. This behavior was designed to give the subject more control over the course and content of the interview. The total number of subject-generated questions during training and generalization sessions was used in the multiple-baseline design.

Other Dependent Measures

Speech disturbances. This dependent measure was defined in terms of the eight categories described in detail by Mahl (1956). The total number of speech disturbances was divided by the total length of subject responding to obtain a rate-per-minute measure for this variable. Mahl's categories include sentence corrections, "ah's", repetitions, incoherent sounds, stuttering, incomplete sentences, slips of the tongue, and omission of words or parts of words. This variable was not selected as a target behavior but was monitored for all training and generalization sessions.

Galvanic Skin Response (GSR). The frequency of GSRs was obtained directly from the physiograph record obtained during the pre- and posttreatment *in vivo* job interviews described above. As is standard in the psychophysiological literature, a single GSR was defined as a fluctuation on the record of 500 ohms or greater occurring at least 3 sec apart and displaying the characteristic slope and return of a skin conductance change.

The two physiograph records were marked at 30-sec intervals, and the total number of GSRs

per interval was calculated. Each record included approximately 2.5 min of baseline data obtained while the subject was seated alone in the interviewing room. In that extraneous variables, such as positioning of the electrodes and condition of the skin contact site, can affect readings taken on two different occasions, the mean number of GSRs per baseline interval was calculated to help calibrate the pre- and postinterview records.

The actual pre- and posttreatment interviews lasted approximately 19 and 13.5 min each, respectively. Twenty 30-sec intervals (10 min of interview behavior) were selected at random from the total number of intervals for each interview, so that there was equivalent random time-sampling. The number of GSRs for each of the random intervals was subtracted from the corresponding baseline mean. These data provided a cumulative record of GSR deviations from baseline and when plotted displayed a pattern of physiological arousal during the pre- and posttreatment interviews.

Unobtrusive measures. Ratings of two verbal and three nonverbal social-communicative behaviors in the subject's natural work setting were obtained using a rating sheet originally developed for use by on-campus recruiters. The wording was slightly modified to conform to the work, rather than to the job-interview setting. The subject's *Eye contact* was rated in terms of whether the subject maintained eye contact when speaking or listening to customers. *Fluency of speech* was determined by whether the subject spoke spontaneously, used words well, and was able to articulate thoughts clearly. *Appropriateness of content* was rated in terms of the subject's ability to respond concisely, cooperate in answering questions, state personal opinions when relevant, and to keep to the subject at hand. Ratings of *composure* were based on whether the subject appeared at ease, comfortable, and relaxed when interacting with customers. In addition, the subject's *personal appearance* was rated in terms of neatness, cleanliness, and appropriateness of attire for work. All five variables were rated on a 4-point scale cor-

responding to (1) poor, (2) fair, (3) good, and (4) excellent.

Procedure

Baseline. A male trainer (RG) presented the five training and three generalization questions to the subject without comment or feedback for six baseline sessions. These baseline sessions provided the opportunity to analyze the subject's behavior in a simulated job-interview setting. The three target behaviors were identified and a rationale for their use was established during these sessions. The same eight questions were presented in the same order for all training and generalization sessions.

Training sessions. During each 20- to 40-min training session, the subject received instructions, modelling, behavior rehearsal, and feedback for the five training questions. Instructions consisted of defining the target behavior and explaining the rationale for its use. In training for *focused responses*, the subject was instructed to use a pause-think-speak paradigm (Sessions 7 to 11). This involved having the subject break eye contact and pause upon hearing the question, focus his line of sight on a neutral spot on the wall or ceiling, attend to one or two key words in the question, generate one or two key words to be used in his response, make eye contact, and then initiate a focused response. This sequence could be completed in a matter of seconds, and with training appeared spontaneous and natural.

Coping statements were introduced by describing how a chain of verbal mistakes can be interrupted with the use of socially appropriate comments such as "excuse me" or "let me start over" (Sessions 12 to 17). Furthermore, overt verbal expressions such as these were expected to help reduce the subject's anxiety. Subsequently, the subject was instructed to emit an overt coping statement whenever he got tongue-tied or whenever he lost his train of thought.

The subject also was instructed in the use of *subject-generated questions* (Sessions 18 to 24). These questions were deemed to be appropriate whenever the interviewer's question was ambig-

uous, when the subject needed further specific information concerning the job, or whenever the subject wanted feedback in terms of how his responses were being received by the interviewer. The job interview was described to the subject in terms of a dialogue between two people, rather than a one-way evaluation process. Also, it was pointed out to the subject that he did not have to be a reactive participant, but in fact could assume a more appropriate, active role.

After each target behavior was discussed, the subject viewed a videotape model that demonstrated the use of appropriate focused responses and effective subject-generated questions. The model (JH), who was similar in age to the subject, responded to the same five questions used in training and used information in these responses that was directly relevant to the subject's personal work experience, goals, *etc.* After the sixth training session (Session 12) the modelling tape was dropped in order to encourage more spontaneous responses on the part of the subject. The modelling tape was used again for two sessions when subject-generated questions were introduced as a target behavior. The use of coping statements, which was not modelled on the videotape, was demonstrated by the trainers during training sessions.

During the first four training sessions, the subject was allowed covertly to rehearse his responses after seeing the model. After the fourth session, however, when the data indicated substantial progress, the subject was not allowed to rehearse his responses in this manner. A major reason for this modification in the procedure was the suspicion, later confirmed by the subject, that he was using this time to memorize the model's response.

After receiving instructions and viewing the modelled responses, the subject rehearsed his response by role-playing with the trainer. Initially, this meant that the trainer asked the training question, and the subject responded. After subject-generated questions were introduced, however, the trainer would continue the dialogue if the subject responded with a question

of his own. This behavior rehearsal was videotaped and immediately played back. Videotape feedback was given with particular attention focused on the target behavior under consideration. The subject received praise and encouragement for emitting effective responses.

Generalization sessions. After the five training questions were presented and practised, the three generalization questions were presented without instructions, models, feedback, or social reinforcement. Subject responses were videotaped for assessment purposes only.

Probes. Before the second and third target behaviors were introduced, a probe consisting of four novel questions for which there were no models, instructions, previous practice, or feedback were presented. A third and fourth probe were administered at the end of the training. The trainer (RG) administered probes one and three while a female role-player not directly involved in training (MD) administered the other two.

RESULTS

Reliability of Measures

Two judges independently rated all baseline, training, generalization, and probe sessions. A coding system employing geometric symbols was used so that videotapes could be presented randomly to the judges. As a result, both judges were unaware of treatment conditions and order in which the sessions occurred.

Pearson product-moment correlation coefficients were computed between raters for total number of speech disturbances and average focused response ratings for each session. These calculations yielded an r of 0.99 for speech disturbances and r of 0.81 for focused responses. Per cent absolute agreement between raters (calculated by dividing the number of times both raters obtained identical frequency counts per session by the total number of sessions observed) for number of coping statements and number of subject-generated questions was found to be 96.2% and 95.3%, respectively.

Per cent absolute agreement between the two raters who unobtrusively observed the subject in his work setting was found to be 90%.

Training and Generalization Sessions

Results for measures of the three target behaviors and rate of speech disturbances are presented in Figures 1 and 2. Target behaviors and rate of speech disturbances responded to training as expected. Inspection of the generalization data indicates a generalization of all behaviors to questions for which no specific training was provided. Data from the four probes support this conclusion and indicate generalization to a person other than the trainer.

Pre- — Posttraining in vivo Interviews

A cumulative record of GSR deviations from the baseline mean is presented in Figure 3. These data indicate that during the pretraining interview, the subject's GSR activity increased over baseline as the interview progressed. On the other hand, during the posttraining interview, the subject's GSR activity decreased from baseline at a decelerating rate. These data appear to substantiate the subject's report that the training enabled him to control his anxiety during job interviews more effectively. The subject's baseline mean at posttesting was higher (5.0 GSRs per 30 sec) than at pretesting (2.6 GSRs per 30 sec). Overall level of skin conductance, however, indicated that the subject was less aroused at posttesting than at pretesting. As noted above, extraneous variables such as positioning of the electrodes and condition of the skin contact site may account for these pre- and postbaseline differences.

Unobtrusive Measures

Ratings of the subject's social-communicative skills in his natural work setting indicated that his fluency of speech, verbal content, composure, and personal appearance were only fair before training. Eye contact was rated as good. After training verbal content, eye contact, composure, and personal appearance were rated as excellent.

Fig. 1. Rate per minute of speech disturbances, average rating of focused responses, and frequency of overt coping statements and subject-generated questions emitted during role-played interactions for training sessions.

Fig. 2. Rate per minute of speech disturbances, average rating of focused responses, and frequency of overt coping statements and subject-generated questions emitted during role-played interactions for generalization sessions and probes.

Fig. 3. Cumulative record of GSR deviations from the baseline mean over 20 randomly selected 30-sec intervals during pre- and posttraining *in vivo* job interviews.

Fig. 4. Average ratings of five dependent measures obtained unobtrusively in the subject's natural work setting, pre- and posttraining.

Fluency of speech was rated as good. These data are presented in Figure 4. These findings support the subject's report that the skills learned in training were directly useful in his everyday social interactions at work.

DISCUSSION

These results suggest that a social-skills training procedure involving instructions, modelling, behavior rehearsal, and videotape feedback may be highly effective in modifying deficient job-interview behaviors. Furthermore, training was found to ameliorate nontargeted behaviors, such as speech disturbances and level of physiological arousal, as well as generalize to stimulus questions for which no training was received, to interviewers whom the subject did not know, and to the subject's general social-communicative skills in his natural work setting.

Two modifications in the procedure were designed to aid generalization of training. Covert response rehearsal, useful at first when the subject's verbal deficiencies were the greatest, was dropped when it appeared that the subject was using this time to memorize the model's response. This is reflected in the data by the increase in the number of subject-generated questions occurring after baseline but before this target behavior was introduced. As the subject's skills increased, the model itself was removed. Both modifications appeared to result in the subject's emitting more spontaneous and imaginative responses. This improvement was indicated by a rapid decrease in the rate of speech disturbances and a marked increase in ratings of focused responses. As a result, the number of coping statements did not increase substantially when this target behavior was introduced because the need for them had decreased as training progressed.

The use of the three target behaviors is similar to some of the cognitive behavior-modification techniques described in detail by Meichenbaum (1977). More specifically, the pause-think-speak training seems to have been particularly effective

in helping this subject emit clear, concise, and organized responses. Training in the use of this paradigm, possibly combined with the increased availability of coping statements in his behavioral repertoire, also appears to have played a significant role in the reduction of interpersonal anxiety. Further investigation of the relative contributions of these variables in controlling job interview behavior is needed.

As a final note, during the last week of training the subject went for three serious job interviews. These three interviews resulted in three definite job offers, one of which he accepted. At present, he is an Administrative Assistant in a hospital with a salary that represents a 253% pay increase over the wage he was receiving when training began. Followup contacts by telephone were conducted at two-, four-, six-, and eight-month intervals. Without exception, these followups revealed that the subject had maintained the gains achieved through social-skills training. For example, the subject reported at four months that the training had enabled him to volunteer as a lay reader in his church and to conduct his first reading before the congregation with notable success. This was viewed as quite an accomplishment by the subject and his wife, since he had never spoken in front of a large group. Also, at eight months, the subject reported that he had become active in the local Jaycee organization and that he was continuing to function effectively at work. The subject's satisfactory job performance would support the initial assessment that the critical problem for this individual was not the lack of employable skills but rather his inability to obtain a satisfactory employment decision in the job-interview setting.

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Received 25 April 1977.

(Final Acceptance 2 December 1977.)